

Appendix B

Summary of Wilmington CSO Baseline and TMDL Volumes and Nutrient Loads

The average annual overflow volume, total nitrogen (TN) load and total phosphorus (TP) load for each Wilmington CSO are listed in Table B-1. The overflow volumes were computed by the XP-SWMM model for baseline conditions from October 1, 1994 to October 1, 1998. The nutrient loads were calculated using the overflow volumes and event mean concentrations derived from storm monitoring data. The locations of the CSOs are shown in Figure B-1.

Table B-1. Summary of annual average baseline and TMDL CSO volumes and nutrient loads

CSO ID	EFDC grid [I,J] index	HSPF Subbasin	Baseline			TMDL		
			Overflow Volume (million gal)	TN Load (kg/yr)	TP Load (kg/yr)	Overflow Volume (million gal)	TN Load (kg/yr)	TP Load (kg/yr)
3	[54,17]	B34	11.56	348.6	45.6	5.67	170.8	22.3
4a	[54,17]	B34	30.64	324.1	54.8	5.72	60.6	10.2
4b	[54,17]	B34	70.37	711.8	89.1	0.00	0.0	0.0
4c	[54,17]	B34	0.00	0.0	0.0	0.00	0.0	0.0
4d	[54,17]	B34	11.46	121.9	20.4	11.46	121.9	20.4
4e	[54,18]	B34	0.11	1.1	0.4	0.01	0.0	0.0
4f	[54,18]	B34	0.00	0.0	0.0	0.00	0.0	0.0
5	[52,13]	C09	14.61	154.8	26.3	2.20	23.4	4.0
6	[52,13]	C09	1.68	17.9	2.9	0.20	2.2	0.4
7	[52,13]	C09	0.31	3.3	0.7	0.01	0.0	0.0
9a	[53,13]	C09	15.32	162.1	27.4	4.78	50.7	8.4
9c	[55,13]	C09	4.94	52.2	8.8	0.25	2.6	0.4
10	[53,13]	C09	9.17	97.1	16.4	1.02	10.6	1.8
11	[52,13]	C09	4.15	44.5	7.7	0.62	6.6	1.1
12	[52,13]	C09	0.08	0.7	0.0	0.00	0.0	0.0
13	[52,13]	C09	11.23	119.0	20.1	1.16	12.4	2.2
14	[53,13]	C09	0.22	2.2	0.4	0.00	0.0	0.0
15	[53,13]	C09	0.49	5.1	0.7	0.00	0.0	0.0
16	[53,13]	C09	0.35	3.7	0.7	0.07	0.7	0.0
17	[53,13]	C09	73.75	787.3	133.2	15.69	167.5	28.5
18	[54,16]	B34	0.03	0.4	0.0	0.00	0.0	0.0
19	[54,17]	B34	56.01	593.9	100.4	0.00	0.0	0.0
20	[54,17]	B34	0.09	1.1	0.0	0.00	0.0	0.0
21a	[54,17]	B34	4.00	43.1	7.3	0.78	8.4	1.5
21b	[54,17]	B34	5.78	64.2	11.0	3.19	35.4	5.8
21c	[54,17]	B34	0.13	1.5	0.4	0.09	1.1	0.0
22b	[54,18]	B34	4.95	53.3	9.1	4.95	53.3	9.1
22c	[54,18]	B34	1.53	16.4	2.9	1.53	16.4	2.9
23	[54,18]	B34	17.73	191.3	32.5	17.73	191.3	32.5
24	[54,20]	B34	52.95	563.9	95.3	42.36	451.1	76.3
25	[54,20]	B34	95.17	1,065.1	235.8	34.08	381.4	84.3
26	[54,20]	B34	1.38	14.6	2.6	0.69	7.3	1.1
27	[44,55]	C05	54.16	573.4	97.1	12.83	135.8	23.0
28	[44,55]	C05	10.32	110.2	18.6	2.44	26.3	4.4
29	[45,55]	C05	25.21	267.5	45.3	5.97	63.5	10.6
30	[52,13]	C09	67.56	715.0	120.8	30.12	318.6	54.0
31*	[57,15]	-	24.45	258.8	43.8	17.22	182.1	30.7
RF Road	[54,21]	B34	5.73	60.6	10.2	0.00	0.0	0.0
Totals			663.19	7,292.7	1,244.7	205.63	2,319.9	405.2

*CSO 31 discharges to Shellpot Creek outside the Christina River Basin and is not included in totals

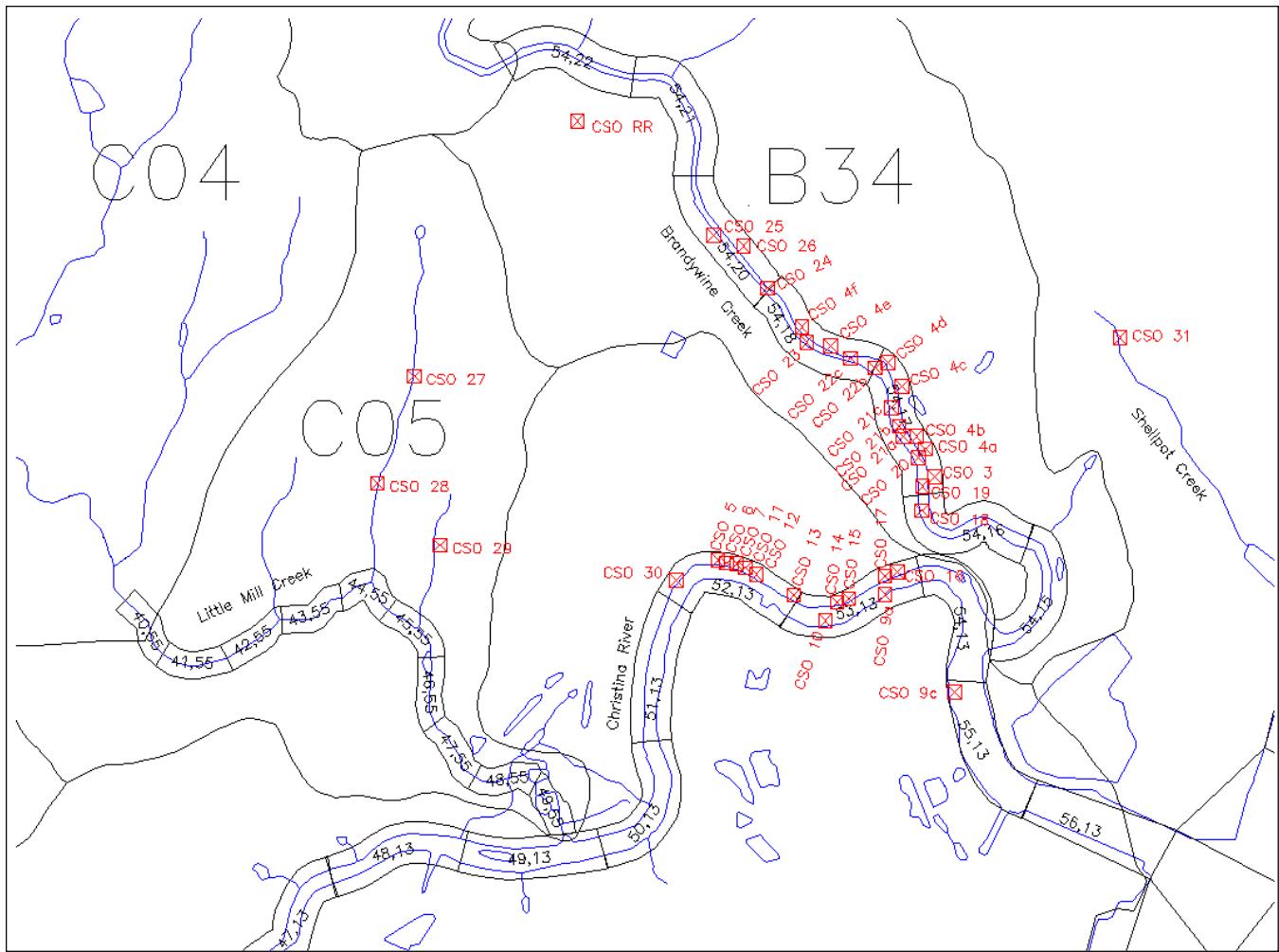


Figure B-1. Locations of CSO discharges relative to EFDC grid cells.

The TMDL CSO load reductions in Table B-1 are one scenario of load reductions, which together with reductions from other sources, result in achieving instream water quality criteria throughout the length of the impaired waterbody. It should be noted that other scenarios are possible. In the future, DNREC may allow an alternate CSO reduction scenario, which also demonstrates that water quality standards are met throughout the length of the impaired waterbody.